

ABSTRACT

According to one exemplary embodiment, a method for reducing resist height erosion in a gate etch process comprises a step of forming a first resist mask on an anti-reflective coating layer situated over a substrate, where the first resist mask has a first width. The anti-reflective coating layer may be, for example, an organic material. The method further comprises a step of trimming the first resist mask to form a second resist mask, where the second resist mask has a second width, and where the second width is less than the first width. The step of trimming the first resist mask may further comprise, for example, etching the anti-reflective coating layer.

According to this exemplary embodiment, the method further comprises a step of performing an HBr plasma treatment on the second resist mask, wherein the HBr plasma treatment causes a vertical etch rate of the second resist mask to decrease.

Figure 3 should accompany the Abstract.